



Canadian
Propane
Association

Association
canadienne
du propane

Propane: The Facts

A guide for the discussion of Canadian economic,
energy and environmental policy



Propane

Low-Emission. Versatile. Canadian.



Canadian
Propane
Association | Association
canadienne
du propane



www.propane.ca
[@canadapropane](https://twitter.com/canadapropane)

Table of Contents

Propane Overview

- 1 Starting the Discussion
- 2 About the CPA
- 3 What is Propane?
- 4 The Canadian Propane Industry
- 5 National Economic Overview
- 6 Environmental Facts

Applications

- 9 Fuelling Our Lives
- 10 Propane Vehicles
- 11 Home Comfort
- 12 Agriculture
- 13 Propane in Industry

Policy Proposals

- 15 Level Playing Field
- 15 Rural, Remote & Indigenous Energy
- 16 Propane Autogas
- 16 Climate Change

Regulation & Safety

- 19 Regulatory Overview
- 20 Safety Commitment
- 21 Propane Training Institute
- 21 Emergency Response Assistance Canada

Provincial Statistics

- 23 British Columbia
- 24 Alberta
- 25 Saskatchewan
- 26 Manitoba
- 27 Ontario
- 28 Quebec
- 29 New Brunswick
- 30 Prince Edward Island
- 31 Nova Scotia
- 32 Newfoundland & Labrador
- 33 The Territories

Case Study

- 34 UPS Canada

Propane Overview:

**It's Time to Take
a Fresh Look at Propane**



Starting the Discussion



Whether discussing energy, the economy or the environment, propane provides solutions to many important issues facing Canada today.

As an abundantly available, low-emission, Canadian-produced energy source, propane is perfect for applications as diverse as heating commercial and residential buildings, fuelling vehicles, drying crops and powering mines, amongst many others.

While other energy options require large-scale infrastructure spending or further technological development, propane is ready to go today.

This book looks at the impact the propane industry has on economic wellbeing and employment, and provides ideas for policy makers to harness this significant opportunity.

Let's start the discussion on propane driving Canada forward.

About the Canadian Propane Association

The Canadian Propane Association (CPA) is the national association for Canada's propane industry, representing over 400 member companies in every region of the country and in every sector of the industry, from producers and transporters to retailers and equipment manufacturers.

Vision

A safe and thriving propane industry that plays a vital role in Canada's energy sector.

Mission

To champion propane and the propane industry in Canada, and to facilitate best practice, safety and a favourable business environment, through advocacy, training and emergency response.

Key Services

- Working with governments and regulators to ensure safety, while promoting Canadian business.
- Helping industry stay abreast of regulatory and safety requirements and providing forums for industry to collaborate on best practices.
- Industry training through CPA's wholly-owned Propane Training Institute (PTI).
- Emergency response for propane and flammable liquids through CPA's subsidiary Emergency Response Assistance Canada (ERAC).

Find out more at propane.ca

What is Propane?

Propane is an efficient and reliable fuel composed of carbon and hydrogen atoms – chemical symbol C_3H_8 . It is abundantly available across Canada as a derivative of natural gas processing and oil refining. It is nontoxic, colourless, and virtually odourless; an identifying odour is added so it can be detected.

Environmentally Responsible

As a low-cost, low-emission hydrocarbon, propane provides opportunities for environmentally friendly energy solutions throughout the country and around the globe. Its greenhouse gas and particulate emissions are significantly lower than most other carbon-based fuels, such as gasoline, diesel and heating oil.

Versatile

Propane's versatility and portability provide large infrastructure savings over the cost of natural gas and renewable energy applications. Today, propane is transported to, and used in, every corner of the country. Having two-and-a-half times more energy content than natural gas helps!

Propane Characteristics

- Liquid propane boils to vapour at -42.2°C (-44°F).
- In a liquid form, propane is half the weight of water.
- One unit of liquid propane has the same energy content as 270 units in gaseous form.
- About 23.5 cubic feet of air is required to burn 1 cubic foot of propane.
- Complete combustion of propane produces clean water vapour and carbon dioxide.

The Canadian Propane Industry

Canada's strong and growing propane industry involves hundreds of businesses, tens of thousands of employees, and millions of customers across Canada.

The industry is comprised of some of the largest and best known energy companies in Canada who concentrate on the production side, and hundreds of small- to medium-sized businesses who direct the wholesaling, retailing, marketing and transportation segments.

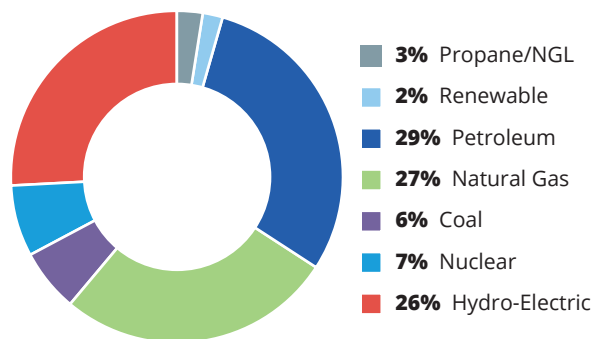
Infrastructure

Propane infrastructure in Canada is well-developed, with tremendous capacity to produce an abundant supply that is highly portable via truck, rail and pipeline across Canada, and into the U.S. There are two major propane trading hubs in Canada – Edmonton, Alberta and Sarnia, Ontario.

Supply

85% of Canada's propane is extracted as part of a Natural Gas Liquid (NGL) mix from natural gas at hundreds of field plants in Alberta, British Columbia and Saskatchewan. The other 15% is produced at oil refineries located in every province except Manitoba, Nova Scotia and PEI.

Canadian Energy Supply

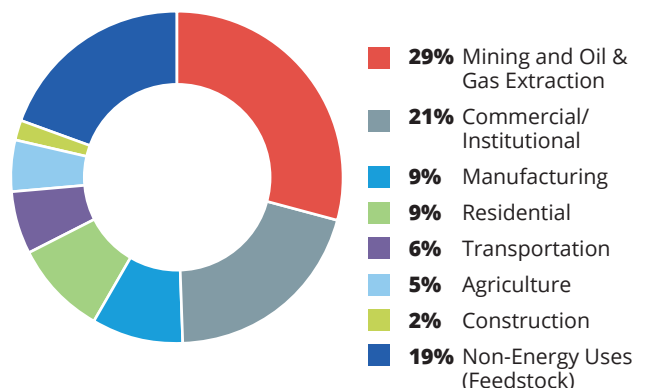


Demand

Around 50% of the propane produced in Canada is used domestically and the remainder is exported.

Propane demand in Canada generally peaks in the winter months due to the seasonal heating load.

Propane Demand by Sector



National Economic Overview

Employment

23,000 Jobs

The Canadian propane industry supports around 23,000 jobs. Canadians are employed in the propane industry in many roles, including in extraction, production and refining, transportation and distribution, equipment manufacturing, and sales and marketing.

These jobs are spread across the country, with around 50% situated in Alberta, the heartland of Canada's propane industry. There are also large propane industry workforces in British Columbia, Saskatchewan, Ontario and Quebec.

Economic Value, Taxes and Royalties

\$16 Billion Economic Value

Each year, the Canadian propane industry generates over \$16 billion for the Canadian economy. As with the industry's employment numbers, around 50% of this value is created in Alberta.

Canada's national, provincial and territorial governments are beneficiaries of a strong propane industry, with propane operations across the country generating over \$1 billion in taxes and royalties each year. These funds help to pay for important services in Canadian communities.

Infrastructure Investment

The propane industry continues to invest in the infrastructure and technology required for the ongoing growth of propane applications.

Canadian Storage & Distribution Facilities

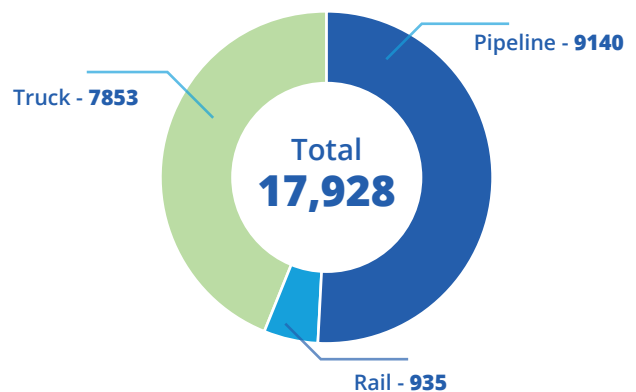
695

Large Storage Facilities

2,018

Small Storage Facilities & Fuelling Stations

Annual Canadian Propane Transportation by Mode ('000 m³)



Environmental Facts

Propane is a low-carbon, clean-burning energy source that emits virtually no air pollutants, and is safely transported and used across Canada every day. Compared to other fuels, propane's utilization helps to improve air quality, reduce greenhouse gas (GHG) emissions and protect the environment.

Lowering GHG Emissions

Recognized for its low emissions and environmental impact by Canada's Alternative Fuels Act, propane is one of the cleanest and most versatile fuels in existence. Studies show that propane emits up to 26% fewer GHGs than gasoline in vehicles, 38% fewer GHGs than fuel oil in furnaces and half the carbon dioxide emissions of a charcoal barbecue.

Eliminating Spills

In the unlikely event of a leak, propane becomes a vapour that does not contaminate the soil, air or aquifers, unlike liquid fuels. Propane dissipates quickly into the atmosphere – a small amount of air movement is enough to disperse the vapour.

Reducing Air Pollutants

Air pollutants negatively affect people and ecosystems worldwide. Propane emits 60% less carbon monoxide than gasoline, 98% less particulate matter than diesel and contains virtually no sulphur – a contributor to acid rain. It emits practically no soot, and low hydrogen and oxides of nitrogen, which are the basic precursors of ground-level ozone, or smog.





“Driven by a move towards low carbon fuels and technological advances, propane is an increasingly attractive energy choice.”

– Andrea Labelle, CPA Executive Director

A full-page background image with a blue tint. It shows a male technician wearing safety glasses, a dark long-sleeved shirt, and a tool belt. He is focused on a task, possibly connecting or inspecting a propane line on a vehicle. The image is used as a background for a promotional graphic.

Applications:

Propane Powers Canada

Fuelling Our Lives

Propane fuels the lives of Canadians in many ways. Most of us know that propane is a popular way to heat up the backyard barbecue or to fuel appliances in an RV. But propane does so much more.

Every day, hundreds of thousands of Canadians rely on propane for their homes, businesses, farms and fleets. The next few pages look at some of the main uses for propane through transportation, residential, agriculture, mining, construction and in manufacturing.

But did you know some of the other ways that propane is used every day?

- Fuelling ice-surfacing machines
- Firing up sideline heaters at professional football games
- As a propellant in aerosol cans – propane is non-toxic and doesn't harm the earth's ozone layer
- In lawn mowers, landscaping equipment and golf carts
- For commercial food service in permanent kitchens, at catered events or in food trucks
- Heating the air that makes hot air balloons fly
- Powering thousands of forklifts all across Canada

“Our propane producers have earned a reputation for innovation, environmental stewardship and corporate responsibility – it’s a reputation that we can be proud of. Our low carbon future will need a secure, affordable and reliable source of propane as well as other forms of energy.”

– **Hon. James Carr**, Minister of Natural Resources Canada, *Energized Magazine*, Summer Edition 2016



Canada's Most Popular Alternative Vehicle Fuel

Propane autogas is a cost-effective, globally-trusted and low-emission automotive energy option. It has many economic and environmental advantages over traditional and alternative vehicle fuels.

Propane autogas is ideally suited for school and transit buses, courier vans, police cars, taxis, limos and any other high-mileage vehicles, particularly those in the medium-duty category. Propane autogas has the largest refuelling infrastructure of any alternative fuel in Canada; around 60,000 vehicles are on the road today.

Reduced Cost to Operate and Maintain

- Lower fuel costs than gasoline and diesel – 40% less on average
- Extensive fuelling infrastructure exists and more can be built cost-effectively
- Vehicle conversion costs are affordable and quickly absorbed – from \$4000
- Maintenance costs are low due to clean burning attributes

Lower Environmental Footprint

- Up to 26% less lifecycle greenhouse gas (GHG) emissions than gasoline
- 98% less particulate matter than diesel-fuelled vehicles

Reliable and High Performance

- Comparable power, range and performance to gasoline and diesel vehicles
- Excellent cold start properties
- Dual-fuel technology (with gas or diesel), for added convenience

Who has Chosen Propane Autogas for Their Operations in Canada?

- UPS, Canada Post, FedEx, Canpar
- London Police, New Westminster Police
- City of Prince George, Region of Peel
- Many school bus operators, including in Calgary, Medicine Hat, Regina, Hamilton & Parry Sound
- Many taxi, limousine and minibus operators



Low-Emission Home Comfort

Switching to propane from heating oil reduces greenhouse gases. Switching from electricity saves money. It makes sense and many Canadians, particularly those in rural and remote areas, choose propane for their home energy needs.

Combined with high-efficiency appliances, propane allows homeowners to lower energy bills while reducing emissions and supporting local distribution businesses.

Home Heating and Hot Water

When you take reliability, cost, performance, and efficiency into account, propane heating outperforms nearly every other type of system that can be installed in a home. High-efficiency furnaces, attractive fireplaces and instant hot water systems are the ideal solution.

Throughout the Home

Propane truly is a great all-round energy. We all enjoy cooking with the high BTUs of propane, and propane-powered cooktops and ovens deliver instant and even heat. Getting off the grid is easy with propane refrigerators, dryers and standby generation.

Outdoor Living

Everyone is familiar with propane grills and how they can turn any night into a cookout with ease. With outdoor propane fire pits, lighting, patio heaters, lawn mowers and pool heaters, yards can be transformed into your own oasis.

“Propane school buses are much easier to start in cold weather, and they also have a quieter engine and lower fuel cost than diesel.”

– **Southland Transportation Ltd**, operating propane buses for the Calgary Board of Education

Versatile Agricultural Energy

In agriculture, the value of propane influences all aspects of farming operations. Whether it's used in irrigation engines, grain dryers, standby generators, pickup trucks, or a variety of other applications, propane has the ability to efficiently fuel a wide variety of farm equipment. No natural gas infrastructure required!

Building and Water Heaters

A growing number of farmers are using propane-powered building heaters, including in greenhouses, barns and brooding sheds, as well as water heaters, in their operations.

Irrigation Engines

Propane-powered irrigation engines are becoming more efficient all the time and can provide farmers with an immediate savings in fuel costs compared with diesel or gasoline.

Grain Dryers

New propane-powered units are extremely efficient and distribute a very precise heat, ensuring the grain dries evenly and results in a high-quality yield.

Flame Weed Control

Propane-powered flame weed control is growing in popularity because it's an environmentally friendly alternative to herbicides and is equally effective.

Standby Generators

Propane-powered standby generators provide farmers with an additional layer of security because propane does not degrade over time like gasoline or diesel.



“Research has shown that weed flaming provides approximately 95% effectiveness in weed control for a large variety of crops.”

– Propane Education and Research Council

The Energy Answer for Industry

The fact that propane can go just about anywhere and perform a number of roles makes it an integral energy source across industry. Whether working in an isolated region, on a construction site or anywhere energy is required, propane is there.

Building Construction

Propane is widely used in construction for a variety of everyday tasks, including flame cutting, powering generators, space heating, and drying, heating or melting materials such as roofing. Propane emits less carbon dioxide and other pollutants than gasoline or diesel, improving air quality for crews.

Mine Operations

Propane is the fuel of choice for mining operations across Canada. Many operations utilize propane for heating mine shafts, powering camps, and in the smelting and refining of minerals. In areas that are often environmentally sensitive, propane's 'no-spill' characteristics provide a huge advantage over liquid fuels.

Non-Energy Feedstock

With the continuing development of Canada's petrochemical industry, propane is becoming more important as a basic raw material for value-added chemical production. Propane can be used to produce synthetic plastics, fibres and rubber, as well as pharmaceuticals and dyes.

“Propane is versatile, portable and cost-effective, especially when compared to traditional fuels powering construction equipment like gasoline and diesel.”

– *Construction Business Owner* magazine.





Policy Proposals:

An Important Part of Canada's Energy Ecosystem

Policy Options

Propane is, and will continue to be, an important part of Canada's energy ecosystem. Smart governments are including propane in policies for energy, environment, infrastructure, agriculture and the economy.

1. A Level Playing Field

No matter where they live and work, Canadians deserve an opportunity to choose the energy source that is best for them and that meets the government's stated goals, whether it's reducing greenhouse gases (GHGs), increasing efficiency or mitigating energy costs.

Involve the Propane Industry in Policy Discussions

It is important that clean-burning propane be given an equal opportunity to participate as policy and programs are developed.

Where Funding is Provided, Make it Energy Neutral

The best policies are ones that set out a desired outcome and reward those who achieve these outcomes. The government should avoid policy choices that attempt to "pick winners", such as funding infrastructure for large, multinational natural gas utilities.

2. Rural, Remote and Indigenous Energy Solutions

Across Canada, homeowners, agri-business and industry continue to choose propane as their fuel of choice for reasons of availability, affordability and environmental awareness. With government support, propane usage can grow, creating significant societal benefits.

Encourage Equipment Upgrades

A short- to mid-term focus is needed on moving energy consumers to high efficiency, low-emission appliances, through education and rebates. This will provide quick wins in emissions reduction, and help bring down energy costs without expansive infrastructure spending.

Incent Fuel Switching

Indigenous, rural and northern communities face unique challenges in addressing their dependence on fossil fuels such as diesel and furnace oil. Propane is well positioned to help reduce this dependence on carbon intense fuels.

3. Quick Wins with Propane Autogas

Transportation creates around 23% of GHG emissions in Canada. Because of its low emissions, proven technology, low infrastructure costs and an expansive fuelling network, propane autogas can provide immediate reductions in GHGs and reduce transportation costs to consumers.

Introduce Conversion Rebates and Tax Breaks

As part of transportation and environment strategies, governments should commit to supporting the conversion of fleets to alternative fuels. This can be achieved via rebates or tax breaks and will have a large impact on uptake, creating significant emission and cost reductions.

Include Propane in Government Fleets

Many vehicles in government fleets are prime candidates for conversion to propane autogas. A government move to propane fleets will save taxpayers money and further encourage growth in the propane autogas market, creating economies of scale in the conversion, fuelling and equipment sectors.

4. Climate Change Policy

Beyond its utilization in homes, businesses and fleets, propane can play a vital role in climate change mitigation and adaption initiatives.

Strengthen Infrastructure

Propane's versatility makes it a vital tool in infrastructure resiliency planning and risk management by providing a back-up energy source at vulnerable public facilities. Propane can also act as a reliable and portable back-up energy source to be used in conjunction with renewables.

Make Carbon Pricing Fair and Transparent

Propane is a lower emitter of GHGs than other carbon-based fuels, meaning it must be given a lower emission cost in any carbon pricing program. This ensures the goal of the program is recognized, and the end user is incented to reduce GHG emissions.



"Propane perfectly fits the efficiency, emission reduction and energy affordability mandate of Canadian governments. From sea to sea to sea, propane is the answer."

– Guy Marchand, CPA Board Chair

A man with a beard and safety glasses stands in front of industrial machinery, including a large spool of wire. The entire image is overlaid with a semi-transparent orange-red filter. The man is wearing a light-colored button-down shirt under a dark jacket. The background shows various mechanical components and a vehicle wheel.

Regulation and Safety:

**An Industry Driven
by Excellence**

Good Regulation Works for Everyone

The storage, transportation, handling and use of propane is regulated by a variety of acts and regulations within federal, provincial, and territorial jurisdictions.

The propane industry works with regulators and government to make certain that new propane technologies and uses are understood, and that a modern, comprehensive set of codes and regulations facilitate best practice, safety and a healthy commercial environment.

Propane Storage and Handling

Provincial and territorial authorities regulate the storage and handling of propane, as well as facilities, contractors, equipment and appliances that use propane. This includes administering and enforcing safety codes and standards, inspections, licensing and permits for the propane industry.

Transportation of Propane and Propane Cylinders

Transport Canada administers and enforces the Transportation of Dangerous Goods (TDG) Act & Regulations, which specifies requirements for transporting propane, such as means of containment, safety marks, training, permits and emergency response assistance plans.

Weights and Measure

Measurement Canada is the authority responsible for ensuring equity and accuracy where propane is bought and sold on the basis of measurement.

Environment and Climate Change Canada's Environmental Emergency Regulations

An Environmental Emergency (E2) plan ensures that any individual that owns or manages specific toxic or hazardous substances above a certain threshold has a plan for preparedness, prevention, response and recovery in the event of an environmental emergency.

Safety First

The Canadian propane industry is committed to safety. Across the spectrum of propane businesses and users, the industry collectively strives to meet and exceed regulatory and training requirements, ensuring that Canadians can work with propane in a safe and effective manner.

CPA's Commitment

Operating safely is a continuous journey. To facilitate this journey, the Canadian Propane Association provides industry training through its wholly-owned Propane Training Institute and offers emergency response capability for propane and flammable liquids through its subsidiary Emergency Response Assistance Canada.

Propane's Safety Characteristics

Some of the characteristics of propane, along with the regulations applied to its equipment, training, and handling, make it one of the safest energy sources available to us.

- An odorant called ethyl mercaptan is added to propane so that leaks are easily detected.
- Propane has the lowest flammability range of all alternative fuels (2.4% – 9.5%) – so there must be a very specific combination of propane and oxygen for it to burn.
- It is illegal to fill propane cylinders or tanks to more than 80% capacity, allowing room for volume changes due to temperature variations.
- Propane cylinders and tanks must be equipped with a pressure relief valve that opens and closes to prevent excessive internal pressure due to abnormal conditions.
- Automotive propane tanks are 20 times more puncture resistant than gasoline tanks – which makes them less likely to rupture in an accident.

Propane Training Institute

The Propane Training Institute (PTI) is the training division of the Canadian Propane Association, dedicated to offering the best in competency-focused programs. This assists the propane industry and its customers to ensure employees are ready to work safely and effectively.

PTI courses are recognized across Canada and have been designed to provide instruction on the safe handling of propane and propane-powered equipment. These training materials set a high standard and enable trainers to facilitate learning, not just teach a course.

Broad Stakeholder Input

PTI works continuously with authorities, regulators, and specialists to ensure federal and local requirements are met, and certifies over 30,000 students annually.

Emergency Response Assistance Canada

Emergency Response Assistance Canada (ERAC), a subsidiary of the Canadian Propane Association (CPA), offers emergency response expertise to CPA members.

ERAC plan participants consist of oil and gas producers, retailers, wholesalers, and carriers of propane and flammable liquids, who require an Emergency Response Assistance Plan approved by Transport Canada. ERAC also provides emergency response assistance to propane stationary tanks greater than 450 litres.

The ERAC Team

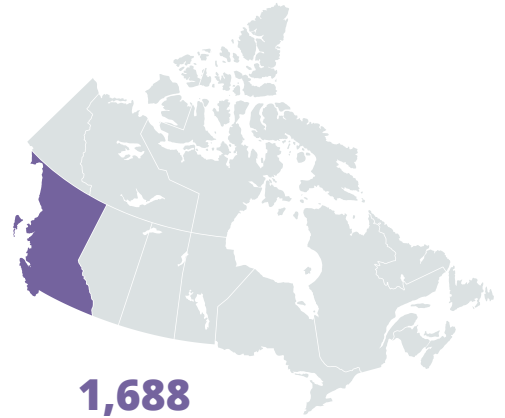
Industry counts on ERAC's highly-trained, experienced response personnel to help with all its emergency response needs. ERAC has 22 trained and assessed response teams, 31 remedial measures advisors, 8 technical advisors, 4 home base coordinators and an emergency call centre who are ready to respond anywhere in Canada.



Provincial Statistics:

A Canadian Success Story

British Columbia



Economy

\$1.068 billion

Annual economic value created by the propane industry

\$60 million

Annual taxes and royalties paid by the propane industry

1,688

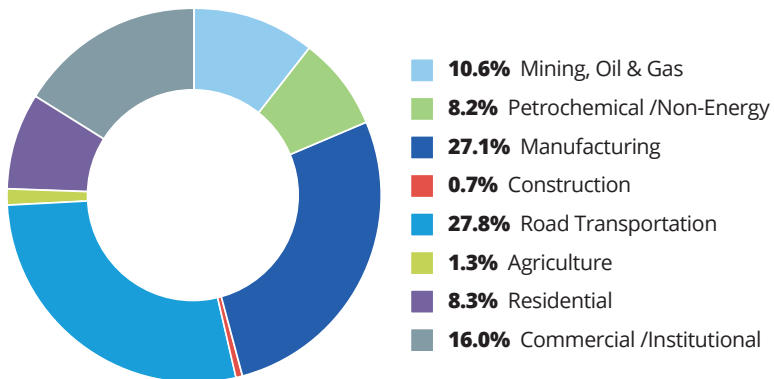
Number of jobs that rely on the propane industry

Demand

Propane makes up **3%** of total energy consumption

4.3% of Canada's propane use occurs in British Columbia

Demand by Sector



2,987

Commercial, industrial & agricultural facilities using propane as a primary energy source

5,886

Residences utilizing propane as a primary energy source

Infrastructure

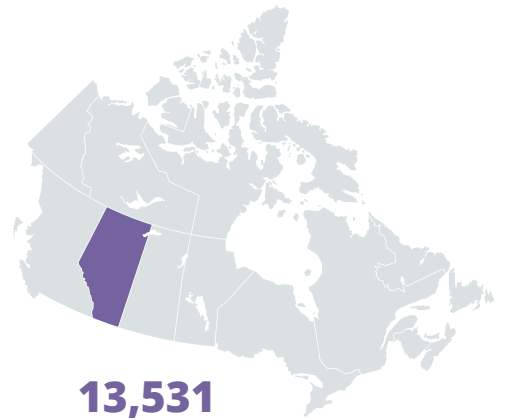
67

Large Storage Facilities

216

Small Storage Facilities & Fuelling Stations

Alberta



Economy

\$9.971 billion

Annual economic value created by the propane industry

\$476 million

Annual taxes and royalties paid by the propane industry

13,531

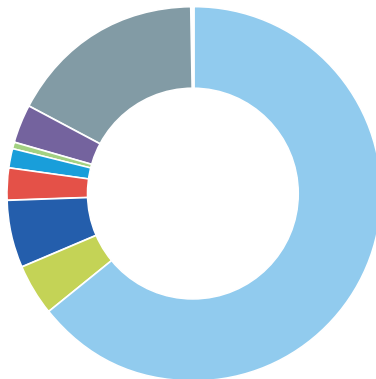
Number of jobs that rely on the propane industry

Demand

Propane makes up **3.1%** of total energy consumption

32.3% of Canada's propane use occurs in Alberta

Demand by Sector



64.5%	Mining, Oil & Gas
4.2%	Petrochemical /Non-Energy
5.9%	Manufacturing
2.7%	Construction
1.9%	Road Transportation
0.6%	Agriculture
3.1%	Residential
17.2%	Commercial /Institutional

20,639

Commercial, industrial & agricultural facilities using propane as a primary energy source

15,212

Residences utilizing propane as a primary energy source

Infrastructure

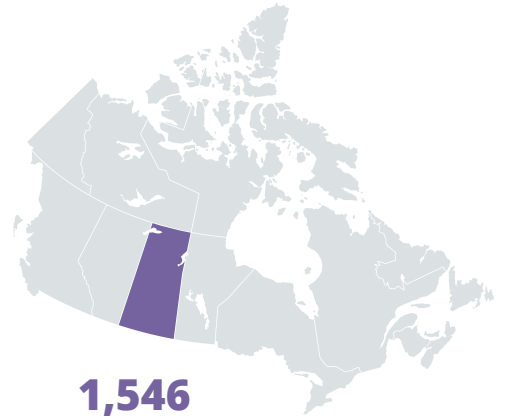
267

Large Storage Facilities

339

Small Storage Facilities & Fuelling Stations

Saskatchewan



Economy

\$668 million

Annual economic value created by the propane industry

\$49 million

Annual taxes and royalties paid by the propane industry

1,546

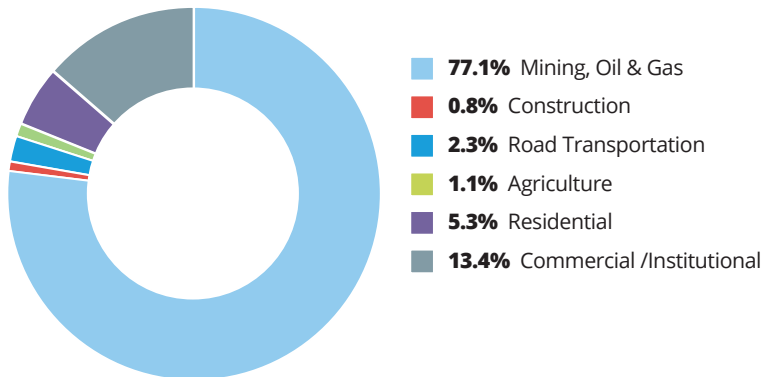
Number of jobs that rely on the propane industry

Demand

Propane makes up **2.9%** of total energy consumption

4% of Canada's propane use occurs in Saskatchewan

Demand by Sector



2,090

Commercial, industrial & agricultural facilities using propane as a primary energy source

3,169

Residences utilizing propane as a primary energy source

Infrastructure

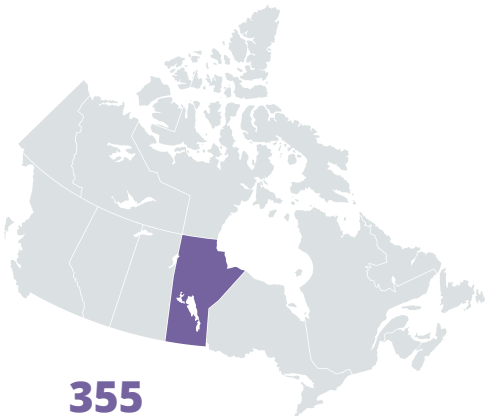
41

Large Storage Facilities

69

Small Storage Facilities & Fuelling Stations

Manitoba



Economy

\$288 million

Annual economic value created by the propane industry

\$11 million

Annual taxes and royalties paid by the propane industry

355

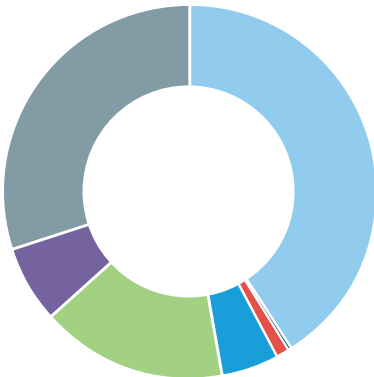
Number of jobs that rely on the propane industry

Demand

Propane makes up **1.5%** of total energy consumption

1.93% of Canada's propane use occurs in Manitoba

Demand by Sector



- 40.9%** Mining, Oil & Gas
- 0.4%** Manufacturing
- 1.0%** Construction
- 5.1%** Road Transportation
- 16.1%** Agriculture
- 6.7%** Residential
- 29.7%** Commercial /Institutional

3,668

Commercial, industrial & agricultural facilities using propane as a primary energy source

1,920

Residences utilizing propane as a primary energy source

Infrastructure

38

Large Storage Facilities

80

Small Storage Facilities & Fuelling Stations

Ontario

Economy

\$1.954 billion

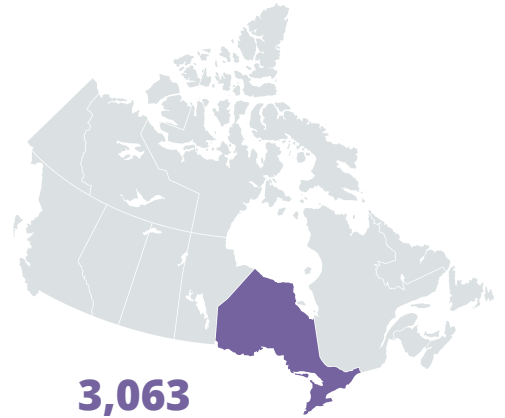
Annual economic value created by the propane industry

\$253 million

Annual taxes and royalties paid by the propane industry

3,063

Number of jobs that rely on the propane industry

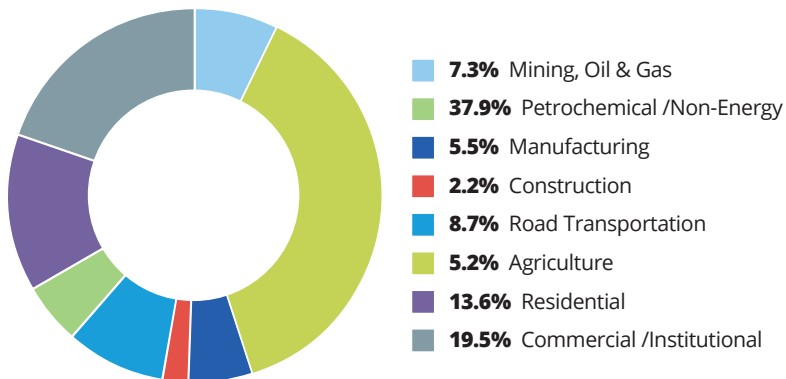


Demand

Propane makes up **2.3%** of total energy consumption

45.7% of Canada's propane use occurs in Ontario

Demand by Sector



41,912

Commercial, industrial & agricultural facilities using propane as a primary energy source

88,141

Residences utilizing propane as a primary energy source

Infrastructure

140

Large Storage Facilities

817

Small Storage Facilities & Fuelling Stations

Quebec



Economy

\$1.461 billion

Annual economic value created by the propane industry

\$78 million

Annual taxes and royalties paid by the propane industry

1,889

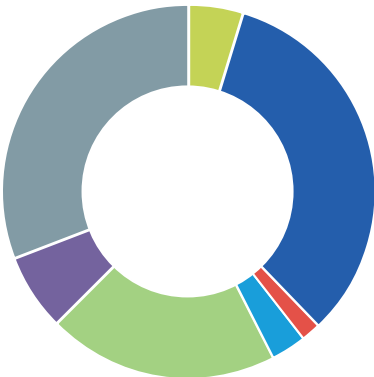
Number of jobs that rely on the propane industry

Demand

Propane makes up **1.2%** of total energy consumption

8.3% of Canada's propane use occurs in Quebec

Demand by Sector



- 0.1% Mining, Oil & Gas
- 4.8% Petrochemical /Non-Energy
- 33.1% Manufacturing
- 1.5% Construction
- 3.1% Road Transportation
- 20.0% Agriculture
- 6.5% Residential
- 30.8% Commercial /Institutional

17,492

Commercial, industrial & agricultural facilities using propane as a primary energy source

7,860

Residences utilizing propane as a primary energy source

Infrastructure

86

Large Storage Facilities

409

Small Storage Facilities & Fuelling Stations

New Brunswick



Economy

\$316 million

Annual economic value created by the propane industry

\$14 million

Annual taxes and royalties paid by the propane industry

304

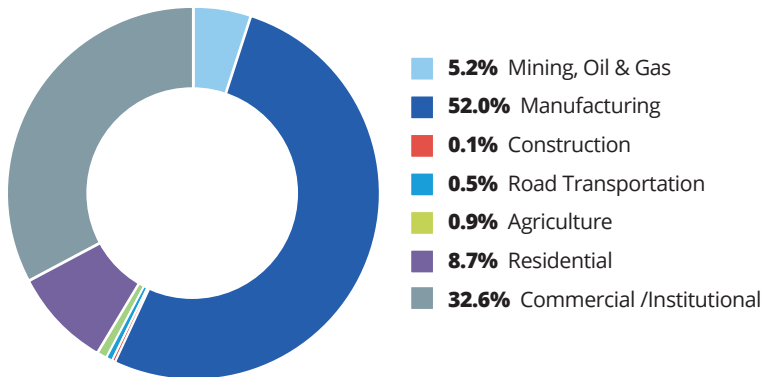
Number of jobs that rely on the propane industry

Demand

Propane makes up **2.1%** of total energy consumption

1% of Canada's propane use occurs in New Brunswick

Demand by Sector



1,356

Commercial, industrial & agricultural facilities using propane as a primary energy source

1,376

Residences utilizing propane as a primary energy source

Infrastructure

17

Large Storage Facilities

23

Small Storage Facilities & Fuelling Stations

Prince Edward Island



Economy

\$20 million

Annual economic value created by the propane industry

\$2 million

Annual taxes and royalties paid by the propane industry

29

Number of jobs that rely on the propane industry

Demand

Propane makes up **1.3%** of total energy consumption

0.1% of Canada's propane use occurs in Prince Edward Island

Demand by Sector



4.3% Agriculture
37.6% Residential
58.2% Commercial /Institutional

435

Commercial, industrial & agricultural facilities using propane as a primary energy source

942

Residences utilizing propane as a primary energy source

Infrastructure

2

Large Storage Facilities

4

Small Storage Facilities & Fuelling Stations

Nova Scotia



Economy

\$319 million

Annual economic value created by the propane industry

\$22 million

Annual taxes and royalties paid by the propane industry

223

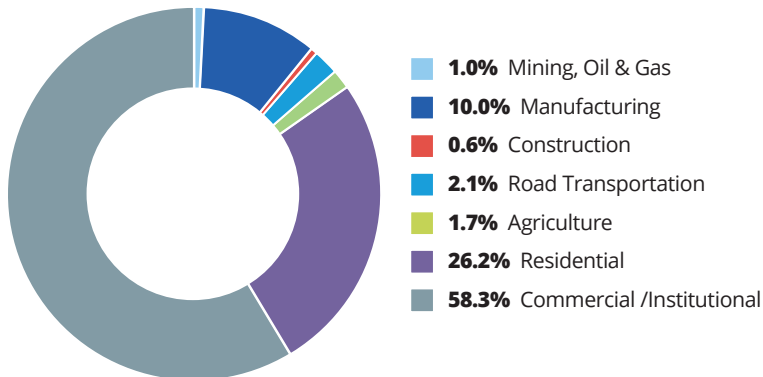
Number of jobs that rely on the propane industry

Demand

Propane makes up **1.7%** of total energy consumption

1.4% of Canada's propane use occurs in Nova Scotia

Demand by Sector



2,766

Commercial, industrial & agricultural facilities using propane as a primary energy source

5,107

Residences utilizing propane as a primary energy source

Infrastructure

13

Large Storage Facilities

33

Small Storage Facilities & Fuelling Stations

Newfoundland & Labrador



Economy

\$151 million

Annual economic value created by the propane industry

\$9 million

Annual taxes and royalties paid by the propane industry

368

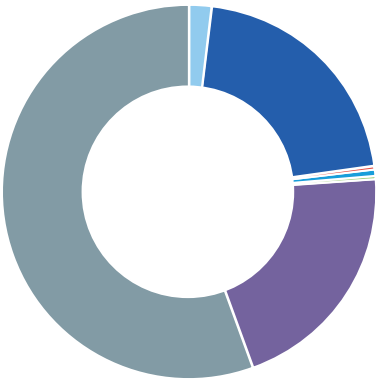
Number of jobs that rely on the propane industry

Demand

Propane makes up **1.4%** of total energy consumption

0.5% of Canada's propane use occurs in Newfoundland & Labrador

Demand by Sector



- 2.1%** Mining, Oil & Gas
- 20.9%** Manufacturing
- 0.2%** Construction
- 0.6%** Road Transportation
- 0.2%** Agriculture
- 20.5%** Residential
- 55.4%** Commercial /Institutional

1,183

Commercial, industrial & agricultural facilities using propane as a primary energy source

1,793

Residences utilizing propane as a primary energy source

Infrastructure

8

Large Storage Facilities

10

Small Storage Facilities & Fuelling Stations

Territories (YK, NT, NU)



Economy

\$84 million

Annual economic value created by the propane industry

\$7 million

Annual taxes and royalties paid by the propane industry

61

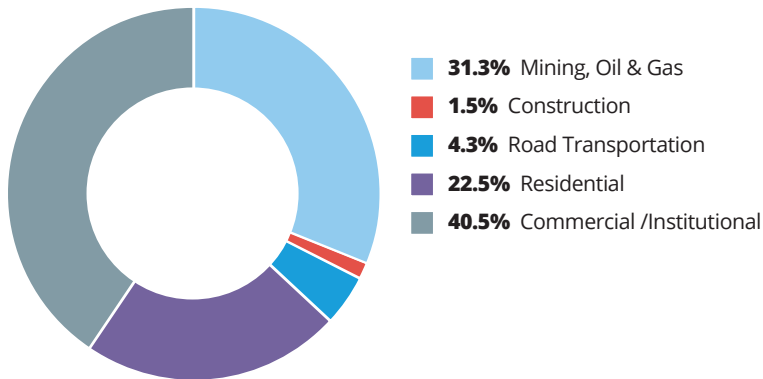
Number of jobs that rely on the propane industry

Demand

Propane makes up **4.1%** of total energy consumption

0.5% of Canada's propane use occurs in the Territories

Demand by Sector



675

Commercial, industrial & agricultural facilities using propane as a primary energy source

161

Residences utilizing propane as a primary energy source

Infrastructure

16

Large Storage Facilities

18

Small Storage Facilities & Fuelling Stations

UPS talks about the role of propane in sustainable logistics

UPS is the largest express carrier and package delivery company in the world, and a leading provider of specialized transportation, logistics, capital, and e-commerce services. We manage the flow of goods, funds, and information in more than 220 countries and territories worldwide. UPS was first established in Canada in 1975, and we now employ approximately 12,000 people across the country.

Every day, UPS is faced with a complex challenge. How do we deliver more while using less?

Our global fleet of more than 7,200 low-emissions vehicles is one way that we are delivering on our sustainability goals. We test different alternative fuels and technologies using a "rolling laboratory" approach based on route characteristics.

This fleet includes propane, as well as all-electric, hybrid electric, hydraulic hybrid, compressed natural gas, liquid natural gas, bio-methane, and light-weight fuel-saving composite body vehicles. We now drive more than 1 million alternative fuel and advanced technology miles worldwide each business day, and our alternative fleet has driven more than 1 billion miles since 2000.

Why Propane?

The UPS alternative fuel strategy is to invest in the most environmentally friendly and economical sources to power our fleet, and propane meets both criteria, making it an excellent fit for our operations. Propane does not compromise package car abilities, and enables UPS to lead on its global sustainability commitments by reducing emissions. Propane-fuelled package cars have a 200-mile range and no route limitations, and in practical terms, our drivers experience no change in drivability compared with standard gasoline-powered package cars.



How the Propane Technology Works

Propane vehicle technology functions in very similar fashion to a conventional gasoline package car. The standard, six-litre, GM V8 gasoline package car is convertible to propane fuel. The propane is in a liquid state when it is delivered to the fuel injectors via an electric fuel pump. The fuel injects into the intake manifold in the same manner as a gasoline model.

Like its gasoline counterpart, the propane vehicle's engine also uses a spark ignition. This makes operation of the propane vehicle virtually identical to a standard gasoline model.

Propane in Canada

We introduced propane into our Canadian fleet in the early 1980s, and today UPS Canada has over 1,000 propane-powered package cars and yard shifters. Following additional conversions which will take place throughout the next 18 months, propane will represent over 50% of UPS Canada's entire fleet.

We are confident that propane will continue to play a crucial role in our continued efforts to ensure increasingly sustainable delivery solutions, and welcome initiatives which facilitate the use of this alternative fuel across Canada.



Canadian
Propane
Association

Association
canadienne
du propane

Canadian Propane Association

300-100 rue Gloucester Street
Ottawa, Ontario K2P 0A2
Tel: 613.683.2270
Email: info@propane.ca
Media Inquiries: media@propane.ca

Propane Training Institute

1100, 744-4th Avenue S.W.
Calgary, Alberta T2P 3T4
Phone: 403.543.6518
Toll-Free: 1.877.784.4636
Fax: 403.543.6508
Email: training@propane.ca

www.propane.ca
[@canadapropane](https://twitter.com/canadapropane)

Emergency Response Assistance Canada

1100, 744-4th Avenue S.W.
Calgary, Alberta T2P 3T4
Tel: 587.349.5880
Fax: 403.543.6099
Email: info@erac.org

Facts included in this book are sourced from CPA research and trusted third parties, including government reports and private studies.

March 2017